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(54) Title: DETECTION, LOCALIZATION AND STAGING OF TUMORS USING LABELED ACTIVATED LYMPHOCYTES DIRECTED TO A TUMOR SPECIFIC EPITOPE

(57) Abstract: Disclosed are methods for detecting and localizing a cell-specific antigen in a mammal, such as a human subject, comprising exposing peripheral blood mononuclear cells (PBMCs) of the mammal to an immunogenic peptide epitope of the antigen, under conditions for antigen-specific activation of T lymphocytes in the PBMCs, thereby producing antigen-specific T lymphocytes that at least bind to the cell-specific antigen. Labeled antigen-specific T lymphocytes are administered to the mammal, typically without IL-2, either intraperitoneally or intravenously. The distribution of these cells in the mammal is determined by imaging, thereby detecting and localizing cell-specific antigen in the mammal. Exposing PBMCs to the immunogenic peptide typically involves a cell-free peptide preparation and interleukin-2 (IL-2), but no additional cells such as antigen presenting cells (APC) separately pulsed with antigen. The antigen-specific T lymphocytes typically are cytolytic for cells expressing the cell-specific antigen and may comprise CD4+, CD8+, and/or CD45RO+ memory T cells.

## INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 G01N33/50 A61K51/00

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**B. FIELDS SEARCHED**Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, PAJ, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MUKHERJI B ET AL: "IMAGING PATTERN OF PREVIOUSLY IN VITRO SENSITIZED AND INTERLEUKIN-2 EXPANDED AUTOLOGOUS LYMPHOCYTES IN HUMAN CANCER" NUCLEAR MEDICINE AND BIOLOGY, PERGAMON, OXFORD, GB, vol. 15, no. 4, 1988, pages 419-427, XP009031787 ISSN: 0969-8051 the whole document	1-4, 8-11, 15, 17, 20-23, 25, 27
Y	----- -----	1-28

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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International Application No

PCT/US 03/32602

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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International Application No

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